



Paul E. Helliker
Director

Department of Pesticide Regulation



Gray Davis
Governor

Winston H. Hickox
Secretary, California
Environmental
Protection Agency

STATUS REPORT FOR FUMIGANT PESTICIDES

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I. SCHEDULED AIR MONITORING

The Air Resources Board (ARB) has a network of stations that routinely monitor California's air for a variety of pollutants such as ozone, particulate matter, metals, and other toxic air contaminants. In 2002, ARB began monitoring for methyl bromide and 1,3-dichloropropene every 12 days at approximately 20 stations in primarily urban areas throughout the State. Results of monitoring in 2002 are available from the following ARB Web page:

<http://www.arb.ca.gov/aqd/toxics/toxics.html>

No other ambient air monitoring is scheduled for any fumigants in 2003. Some fumigants are scheduled for application site monitoring, as described below.

II. ACUTE BUFFER ZONE MODELING

DPR utilizes a standard methodology to calculate buffer zones for acute exposures. Fumigant pesticide registrants and some grower groups have suggested some specific refinements to the current modeling methodology that they believe will improve the procedure and incorporate local information and more representative meteorological conditions. Industry has proposed an alternative approach to DPR's modeling procedures. Their approach would incorporate historical weather data, revising the method to estimate flux and the method to determine the size of buffer zones. The alternative approach would be utilized by the industry at their discretion in specific areas. The standard DPR model would remain in place statewide. DPR awaits the industry's results of using their methodology to identify regions of the state with comparable weather conditions through statistical analysis once weather data have been gathered and incorporated into the model.

III. METHYL BROMIDE

1. Risk Assessment/Data Evaluation

- Methyl bromide registrants conducted ambient air monitoring for methyl bromide during the 2002 pesticide use season. The registrants conducted monitoring at four sites in Ventura County and five sites in Monterey and Santa Cruz counties between early July and late October 2002. The highest eight-week average concentration detected was 3.7 ppb. The monitoring report can be found on DPR's Web page at:

<http://www.cdpr.ca.gov/docs/empm/pubs/tac/methylbr.htm>

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DPR scientists have completed revisions to the methyl bromide risk characterization document for inhalation (February 14, 2002) to incorporate the National Academy of Science peer review comments. This risk characterization document for methyl bromide has been approved and distributed.

2. Risk Management Status

- The 2001 Carrillo v. DPR and Monterey County Agricultural Commissioner lawsuit was settled in May 2002. Under the settlement terms, DPR agreed to review and consider the regulation of subchronic exposure to methyl bromide within its re-promulgation of methyl bromide field fumigation regulations (see last bullet in this section). DPR received a new subchronic methyl bromide inhalation toxicity study in dogs. DPR evaluated this study and all other subchronic toxicity studies as part of its re-promulgation process. DPR also agreed to follow the consultation procedures in AB 1807 in readopting these regulations. The settlement also stipulated that in the 2002 use season, the commissioner would develop a plan for areas within 1500 feet of Pajaro Middle School and La Joya Elementary School for methyl bromide applications, and applications will take place while school is not in session. As a result of the settlement, a 2001 preliminary injunction was vacated, and the appeal of the preliminary injunction was withdrawn.

As part of the re-promulgation process, DPR held a workshop on February 26, 2003 to receive input from interested parties on the regulatory value selected for subchronic exposure. Comments were received until the end of March 2003.

- DPR convened a Methyl Bromide Interagency Workgroup on March 12, 2003 to discuss the need for an appropriate degree of control measures for acute and subchronic exposures. DPR met with the workgroup on April 9, 2003 to discuss control measures for acute and subchronic exposures. DPR drafted a document dated May 22, 2003 entitled "Mitigation measures for seasonal exposures of agricultural workers to methyl bromide during soil fumigations."
- The Environmental Defense Center et al lawsuit and the Ventura County Agricultural Association et al lawsuit were consolidated and heard in San Francisco on February 21, 2002. The Court issued its written decision on April 9, 2002.

The Court's order declared certain methyl bromide field fumigation regulations void, and stayed that order for 45 days to allow DPR time to file emergency regulations. In May, the Court extended the stay of its April 9 order to

September 23, 2002, at the request of the Ventura County Agricultural Association. DPR re-filed the emergency regulations to replace the regulations voided by the Court order. The emergency regulations became effective on September 22, 2002. The emergency regulations were readopted on January 21, 2003, and again on May 21, 2003. These regulations are effective through September 18, 2003. DPR will begin the rulemaking process to permanently adopt regulations in early September 2003.

3. Critical Use Exemption Under the Clean Air Act

- U.S. EPA created opportunities for seeking a critical use exemption (CUE) allowing the use of methyl bromide after the complete phase out in 2005. U.S. EPA submitted a nomination package with other federal agencies to the Secretariat of the Montreal Protocol in January 2003. The package included several California commodities from last year's applicants. In June 2003, U.S. EPA sponsored a workshop in Parlier to help explain requirements for resubmission of CUE applications for applicants from last year, and to walk through the process for prospective new applicants. The workshop also included a session to elicit comments and suggestions for U.S. EPA to consider in its forthcoming rulemaking proposal on allocating CUEs among methyl bromide users.

IV. 1,3-DICHLOROPROPENE

- DPR continues to use the California Management Plan: 1,3-Dichloropropene (1,3-D) to manage the use of 1,3-D throughout California.

Information on the California Management Plan: 1,3-Dichloropropene is found at the following DPR Web site:

<http://www.cdpr.ca.gov/docs/dprdocs/methbrom/telone/mgmtplan.pdf>

Enforcement Letter, ENF 02-37 Recommended Permit Conditions for Using 1,3-D Pesticides (Fumigant) provides guidance to county agricultural commissioners and is posted on DPR's Web site at:

<http://www.cdpr.ca.gov/docs/enfcmpli/penfltrs/penf2002/2002menu.htm>

V. CHLOROPICRIN

1. Risk Assessment/Data Evaluation

- ARB conducted ambient air monitoring for chloropicrin during the 2001 pesticide use season. ARB conducted monitoring at the same 12 sites and time periods as the other fumigants. ARB submitted the draft report to DPR in January 2003. ARB also conducted air monitoring near a chloropicrin application site during October and November 2001. ARB completed the report on application site monitoring in March 2003 and is found at the following DPR Web site: (http://www.cdpr.ca.gov/docs/empm/pubs/tac/tacpdfs/chloropicrin_2001.pdf)

ARB is preparing the final report for ambient air monitoring. DPR requested that ARB conduct monitoring for another application site in 2003.

- On October 16, 2001, DPR placed all products containing chloropicrin into reevaluation. The reevaluation is based on data submitted under the Birth Defect Prevention Act. These data indicate that chloropicrin has the potential to cause adverse health effects at low doses. Air monitoring data submitted by the Chloropicrin Manufacturers Task Force indicate that the air levels of chloropicrin at some distances from treated greenhouses or fields could exceed the NIOSH standard of 0.1 ppm. Under the reevaluation, chloropicrin registrants are required to submit: (1) worker exposure studies for each type of chloropicrin fumigation site, and (2) ambient air quality monitoring and flux measurements from field and greenhouse applications, if methods other than the ones for which DPR already has data are to be employed.

In May 2002, DPR received draft protocols for a worker exposure and air monitoring study, and a vapor trapping efficiency study. In August 2002, in response to DPR's review, the Task Force submitted a revised draft protocol for the worker exposure and air monitoring studies. Fieldwork is projected to be conducted October 2002 through October 2003.

- Chloropicrin is currently in the risk assessment process.

VI. MITC GENERATING COMPOUNDS

1. Risk Assessment/Data Evaluation

- ARB conducted ambient air monitoring for MITC and methyl isocyanate during the 2001 pesticide use season. ARB conducted monitoring at the same 12 sites

and time periods as the other fumigants. ARB submitted the draft report to DPR in January 2003.

- The Scientific Review Panel (SRP) accepted DPR's toxic air contaminant risk assessment for MITC at its April 26, 2002 meeting. Final acceptance of the document occurred on August 7, 2002. The SRP was satisfied with the additional information and issued its findings on August 8, 2002. Based on the risk assessment and the SRP's findings, DPR designated MITC and other pesticides that generate MITC as toxic air contaminants through the rulemaking process. This regulation (Title 3 CCR section 6860) became effective on June 21, 2003.
- In April 2002, the Metam Sodium Manufacturers Task Force submitted several reports containing monitoring data of current application practices and modified application practices.

2. Risk Management Status

- DPR received the findings of the SRP and released the risk assessment. DPR initiated the process of developing mitigation measures to reduce acute offsite exposures. DPR requested a proposal from the registrants on mitigation measures to address these exposures.
- On December 2, 2002, DPR issued a public document that outlines its risk management decision.
- DPR received mitigation proposals from the Metam Sodium Manufacturers Task Force and one other registrant in March 2003. DPR reviewed the proposals and is preparing a mitigation strategy. DPR will meet with county agricultural commissioners and other government agencies prior to meeting with external stakeholders.

VII. SULFURYL FLUORIDE

1. Risk Assessment/Data Evaluation

- Sulfuryl fluoride is currently in the risk assessment process.
- ARB monitored a structural fumigation in Sacramento County during October 2002. ARB will likely monitor additional structural fumigations in 2003.

2. New Products/Uses

- California's registration of an experimental use permit for application of sulfuryl fluoride as a methyl bromide alternative in food commodity fumigation has been approved. However, U.S. EPA's approval remains pending.

VIII. PHOSPHINE

- DPR noticed a regulation to list phosphine and other pesticides that generate phosphine as toxic air contaminants in December 2002, and the public comment period ended in February 2003. This regulation was approved and became effective on June 21, 2003.

IX. POTENTIAL NEW FUMIGANTS/FUMIGANT ALTERNATIVES

- DPR has received applications from Arvesta, formerly Tomen Agro, to register products containing the active ingredient iodomethane (methyl iodide). DPR and the U.S. Environmental Protection Agency are conducting a joint review of the off-site air monitoring data.

In 2002, Arvesta conducted a worker exposure study for methyl iodide using a shallow broadcast tarp application via shank injection. They have received approval to conduct a study involving methyl iodide employing tarped/raised bed shank injection methodology.

Arvesta also submitted a 90-day subchronic oral (capsule) toxicity study in dogs. The study was acceptable, but showed possible adverse effects.

- DPR registered NutGuard-V FruitGuard-V as a conditional registration. NutGuard-V FruitGuard-V is manufactured by AgriVir, LLC and contains the new active ingredient Indian meal moth granulosis virus. This product is very specific and controls only Indian meal moths. It is registered for use on dried fruit, nuts, and processing, packing, and storage areas. This product may replace some post-harvest uses of methyl bromide.

X. VOLATILE ORGANIC COMPOUNDS

- Volatile organic compounds (VOCs) contribute to the formation of tropospheric ozone, which is harmful to human health when present at high enough concentrations. Many active and inert ingredients in pesticide products are VOCs. The federal Clean Air Act requires each state to submit a state implementation plan (SIP) for achieving

and maintaining federal ambient air quality standards including the standard for ozone. ARB and the San Joaquin Valley Air Pollution Control District are scheduled to complete a SIP in early 2004 that will describe the steps to attain the ozone standard by 2010 in the San Joaquin Valley. ARB estimates that all sources, including pesticides, will need to reduce VOC emissions an additional 30 percent between 2005 and 2010 in order to achieve the ozone standard. DPR is working with ARB and others to incorporate possible reduction options for VOC emissions from pesticides in the SIP. DPR estimates that 50-60 percent of VOC emissions from pesticides are due to fumigants.